Risk factors Associated with skin and vulva lesions in loose-housed gestating sows and gilts in Denmark

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OBJECTIVE

To investigate risk factors associated with the pen-level prevalence of skin and vulva lesions in loose-housed gestating sows and gilts in Denmark

MATERIALS & METHODS

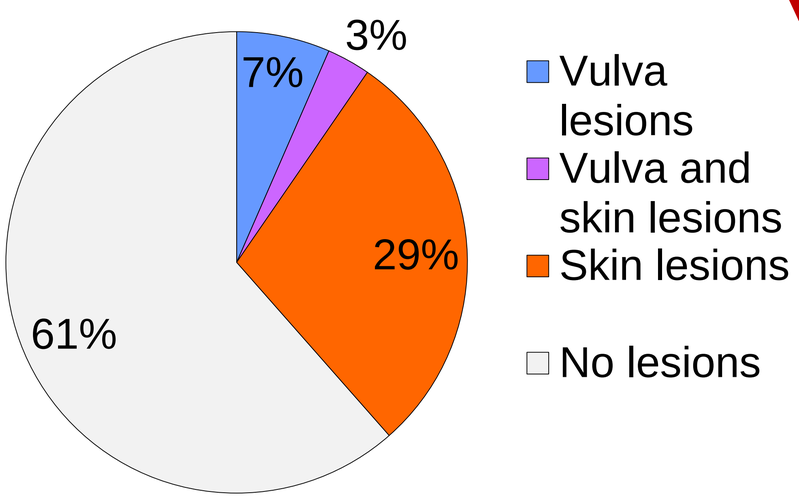
- 21 conventional herds (>200 sows), 121 pens, 657 animals
- Pens and animals sampled according to the Welfare Quality® (WQ) protocol
- Skin and vulva lesions were defined as present if WQ score = 1 or 2
- Correlations between pen characteristics ranged from 0.07 to 0.49 (Cramer's V)
- Univariable generalised linear mixed models with a negative binomial response and herd and pen as random effects.

CONCLUSION

The results suggest that occurrence of skin and vulva lesions may have different aetiologies. Vulva lesions were a farm level problem, whereas skin lesions were a pen level problem. Further research is needed to uncover the effects of pen design, feeding system, amount of straw as rooting material and its application, group dynamics and group size on vulva and skin lesions

RESULTS

Number of animals, n=657



Fixed effect: OR (95% CI)

Skin lesions

Feeding system
Closed stalls: 1.0 (Ref.)
Open stalls: 0.9 (0.3-2.3)
Feeding automat: 3.0 (1.5-6.2)
Floor feeding: 1.4 (0.6-3.1)
Trough: 0.8 (0.3-1.9)

Animal group
Sows and gilts: 1.0 (Ref.)
Sows: 0.8 (0.4-1.7)
Gilts: 0.2 (0.0-0.7)

Rooting material
>2 L straw: 0.8 (0.3-1.7)
Up to 2 L straw: 0.4 (0.1-1.0)
Wood and/or metal: 0.7 (0.2-2.6)
No rooting material: 1.0 (Ref.)

Group size
>8 animals: 0.7 (0.2-2.1)
8-20 animals: 1.0 (Ref.)
20-40 animals: 0.8 (0.3-1.8)
40-60 animals: 1.6 (0.7-3.7)
>60 animals: 2.7 (1.3-6.2)

Mixing
Stable group: 1.0 (Ref.)
Recently mixed group: 2.2 (1.1-4.1)
Dynamic group: 2.1 (0.9-5.3)

Vulva lesions

Group size
>8 animals: 0.4 (0.0-2.7)
8-20 animals: 1.0 (Ref.)
20-40 animals: 0.9 (0.3-3.3)
40-60 animals: 1.0 (0.2-5.2)
>60 animals: 4.4 (1.2-19.0)

No association with skin or vulva lesions:
- Prevalence of dirty animals
- Water points per animal
- Resting area per animal
- Stocking density

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